

CLAIMS:

(amended March 12, 2001)

1. Use of a nucleic acid or parts thereof coding for a  $\beta$ -hexosaminidase from ciliates for the homologous or heterologous expression of recombinant proteins and peptides, and for homologous or heterologous recombination ("knock-out, "gene replacement").
2. The use according to claim 1, characterized in that said nucleic acid codes for an extracellular  $\beta$ -hexosaminidase.
3. The use according to claim 1 or 2, characterized in that said nucleic acid has the sequence shown in Figure 1, especially that of Seq. Id. No. 1.
4. The use according to claims 1 to 3, wherein said nucleic acid codes for an N-terminal fragment of a protein having the sequence MQKILLITFLLGIALAQ.
5. Use of a nucleic acid according to any of claims 1 to 4 in a method in which said nucleic acid is combined with the usual, in homologous or heterologous expression, enhancers, promoters, operators, origins, terminators, antibiotic resistances, or other nucleic acids or DNA fragments, or sequences of any kind from viroids, viruses, bacteria, archezoans, protozoans, fungi, plants, animals or humans.
6. The use according to claim 5 in a method in which the nucleic acid is incorporated or inserted into a vector, a plasmid, a cosmid, a chromosome or minichromosome, a transposon, an IS element, an rDNA, or any other kind of circular or linear DNA or RNA.
7. A peptide having the sequence MQKILLITFLLGIALAQ.
8. A nucleic acid coding for the peptide according to claim 7.
9. Use of the peptide according to claim 7 or of the nucleic acid according to claim 8 for the homologous or heterologous expression of recombinant pro-

teins and peptides, and for homologous or heterologous recombination ("knock-out, "gene replacement").